

**Notice of Allowability**

Application No.

10/088,831

Examiner

Mohamed Charioui

Applicant(s)

SAGE, PAUL

Art Unit

2857

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--**

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 7/13/04.
2. ☒ The allowed claim(s) is/are 1-3, 5-9, 11-38 and 43-60, renumbered.
3. ☒ The drawings filed on 30 July 2002 are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☐ All b) ☐ Some\* c) ☒ None of the:
    1. ☒ Certified copies of the priority documents have been received.
    2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
  6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
    - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
      - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
    - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

- |   |  |
|---|--|
| 1. <input type="checkbox"/> Notice of References Cited (PTO-892)  | 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)            |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                | 6. <input type="checkbox"/> Interview Summary (PTO-413),<br>Paper No./Mail Date _____. |
| 3. <input type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),<br>Paper No./Mail Date _____ | 7. <input type="checkbox"/> Examiner's Amendment/Comment                               |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit<br>of Biological Material          | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance   |
|   | 9. <input type="checkbox"/> Other _____.   |

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1. Applicant canceled claims 4, 10 and 39-42.

#### **EXAMINER'S AMENDMENT**

2. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with David B. Smith on 8/12/04.

In page 9, line 14 of the amendment, change "within the network model."  
to --within the network model;--

In page 10, lines 1-6 of the amendment, change "A method according to claim 30, wherein the network peak flow demand is determined by estimating the through flow through each pipe tree branch required to meet network demand downstream of the branch, associating a branch through flow demand, and for each pipe, summing the branch through flow demand for each pipe tree branch which that pipe is a part to arrive at the network peak demand for that pipe."

To

--A method according to claim 30, wherein the network peak flow demand is determined by:

- i) estimating the through flow through each pipe tree branch required to meet network demand downstream of each said pipe tree branch to derive a branch through flow demand for each said pipe tree branch; and

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ii) for each pipe, summing the branch through flow demand of each said pipe tree branch that includes the said each pipe to arrive at the network peak demand for the said each pipe.—

In page 11, line 5 of the amendment, change “instances of each pipe” to – instances of said each pipe--.

In page 11, line 7 of the amendment, change “significance of that pipe” to –significance of said each pipe--.

In page 11, line 13 of the amendment, change “instance count of each pipe” to -- instance count of said each pipe--.

In page 11, lines 14-15 of the amendment, change “count for each pipe” to –count for said each pipe--.

In page 11, line 14 of the amendment, change “significance of that pipe within the network” to --significance of said each pipe within the network--.

In page 11, line 23 of the amendment, change “node through the or each pipe” to --node through said each pipe—.

In page 11, line 27 of the amendment, change “considering each pipe in return” to -- considering said each pipe in return--.

In page 11, lines 27-28 of the amendment, change “count for each pipe” to -- count for said each pipe--.

In page 12, line 3 of the amendment, change “flow rate for each pipe” to -- flow rate for said any particular pipe--.

In page 12, line 5 of the amendment, change “demand on each pipe” to -- demand on said any particular pipe--.

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In page 12, line 7 of the amendment, change “demand on each pipe of the network” to –demand on said any particular pipe of the network--.

In page 12, line 9 of the amendment, change “demand for each pipe in the network” to –demand for said any particular pipe in the network--.

In page 12, line 22 of the amendment, change “demand for each pipe in the respective branch” to --demand for said any particular pipe in the respective branch--.

In page 12, line 25, change “demand for each pipe is estimated” to –demand for said any particular pipe is estimated--.

***Allowable Subject Matter***

3. **Claims 1-3, 5-9, 11-38 and 43-60** are allowed.
4. **Claims 1-3, 5-9, 11-38 and 43-60** are renumbered.

The following is a statement of reasons for the indication of allowable subject matter:

**Regarding claims 1-3, 5-9, 11-23, 36-38 and 48-54**, none of the prior art of record teaches or suggests proposing a modification to the selected pipe which provides an incremental improvement in the criteria; performing a network analysis of at least one predetermined operating parameter of the network to predict whether a predefined operating limit of the operating parameter will be violated as a result of the modification; if the network analysis predicts a violation of the predefined operating limit, then rejecting the proposed modification and removing the respective pipe from consideration for any further modification, in combination with the rest of the claim limitations.

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**Regarding claims 24-28 and 55-57**, none of the prior art of record teaches or suggests counting the number of instances of each pipe occurring in a flow path between a source node defined by the network model and the boundary of the network model, and using the instance count for each pipe as the indication of the hydraulic significance of that pipe within the network, such that pipes with a higher instance count are considered to be more hydraulically significant than pipes with a lower instance count, in combination the rest of the claim limitations.

**Regarding claims 29-35 and 58-60**, none of the prior art of record teaches or suggests deriving a local peak flow demand representative of the localized demand on each pipe of the network and combining the network peak flow demand with the local peak flow demand to arrive at a peak flow rate demand for each pipe in the network, in combination the rest of the claim limitations.

**Regarding claims 43-47**, none of the prior art of record teaches or suggests counting the number of instances of each pipe occurring in a flow path between a source node defined by the network model and the boundary of the network model, and using the instance count for each pipe as the indication of the hydraulic significance of said pipe within the network, such that pipes with a higher instance count are considered to more hydraulically significant than pipes with a lower instance count.

**Contact information**

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5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mohamed Charioui whose telephone number is (571) 272-2213. The examiner can normally be reached Monday through Friday, from 9 am to 6 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Marc S Hoff can be reached on (571) 272-2216. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Mohamed Charioui

8/16/04

  
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